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1 UNITED STATES PATENT AND TRADEMARK OFFICE

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4 BEFORE THE BOARD OF PATENT APPEALS
5 AND INTERFERENCES
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7

8 *Ex parte* JAMES L. HOBART, DANIEL K. NEGUS, and DAN E.
9 ANDERSON
10

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12 Appeal 2007-4219
13 Application 09/018,104
14 Technology Center 3700
15

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17 Decided: February 15, 2008
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19

20 *Before* WILLIAM F. PATE, III, TERRY J. OWENS, and JOHN C.
21 KERINS, *Administrative Patent Judges*.

22
23 PATE, III, *Administrative Patent Judge*.
24

25 DECISION ON APPEAL
26

27 STATEMENT OF CASE

28 The Appellants appeal under 35 U.S.C. § 134 (2002) from a Final
29 Rejection of claims 1-4, 6-14, 17-24 and 41-52. Claims 5, 15, 16, and 25-40
30 were previously canceled. We have jurisdiction under 35 U.S.C. § 6(b)
31 (2002).

The Appellants claim a medical laser device including a laser source with two or more lasers, the laser beams being combined by the laser source to provide a laser output.

Representative independent claim 1 reads as follows:

1. A medical laser delivery apparatus for delivering a series of laser pulses having a wavelength, the medical laser delivery apparatus including non-ablative laser pulses for directing to an area of tissue to be treated and generating a region of coagulation to a controllable coagulation depth under a surface of the area of tissue, the apparatus comprising a laser source for generating the series of laser pulses including the non-ablative laser pulses to be delivered to the area of tissue to be treated in order to raise a temperature at the surface of the area of tissue to be treated to a temperature sufficient to generate coagulation at the coagulation depth when the laser source is in a coagulation mode, wherein the laser source comprises two or more lasers that combines the series of laser pulses from the two or more lasers.

Independent claims 11 and 17 claim similar devices while independent claim 41 recites a similar device in a means-plus-function format. Independent claims 50 and 51 also claim similar devices but specifically recite a galvanometer that combines the two or more laser pulses.

The prior art relied upon by the Examiner in rejecting the claims is:

Dew	4,672,969	Jun. 16, 1987
Sklar	5,098,426	Mar. 24, 1992
Dwyer	5,125,922	Jun. 30, 1992
Belkin	5,620,435	Apr. 15, 1997
Assa	5,938,657	Aug. 17, 1999

1 Anderson, *Selective Photohermolysis: Precise Microsurgery by Selective*
2 *Absorption of Pulsed Radiation* 220 Science 524-27 (Am. Assoc. for the
3 Advancement of Sci., Apr. 29, 1983).
4

5 The Examiner rejected claims 1, 11, 17, and 41 under 35 U.S.C.
6 § 102(b) as lacking novelty over Dwyer.

7 The Examiner rejected claims 1-3, 8, 41, 43, 44, and 47-51 under 35
8 U.S.C. § 103(a) as unpatentable in view of Dew, Anderson and Belkin.

9 The Examiner also rejected claims 1, 6, 7, 11-13, 17, 18, 41, and 44-
10 46 under 35 U.S.C. § 103(a) as unpatentable in view of Sklar and Dwyer.

11 The Examiner further rejected claims 4, 9, 10, 42, and 52 under 35
12 U.S.C. § 103(a) as unpatentable in view of Dew, Anderson, Belkin and
13 Assa.

14 The Examiner rejected claims 14 and 19-22 under 35 U.S.C. § 103(a)
15 as unpatentable in view of Dew, Anderson, Belkin and Sklar.

16 The Examiner further rejected claims 23 and 24 under 35 U.S.C.
17 § 103(a) as unpatentable in view of Dew, Anderson, Belkin, Sklar and Assa.

18 We AFFIRM.
19

20 ISSUES

21 The following issues have been raised in the present appeal.

22 1. Whether the Appellants have shown that the Examiner erred in
23 rejecting claims 1, 11, 17, and 41 as lacking novelty over Dwyer.

24 2. Whether the Appellants have shown that the Examiner erred in
25 rejecting claims 1-3, 8, 41, 43, 44 and 47-51 as unpatentable in view of Dew,
26 Anderson and Belkin.

3. Whether the Appellants have shown that the Examiner erred in rejecting claims 1, 6, 7, 11-13, 17, 18, 41, and 44-46 as unpatentable in view of Sklar and Dwyer.

4. Whether the Appellants have shown that the Examiner erred in rejecting claims 4, 9, 10, 42, and 52 as unpatentable in view of Dew, Anderson, Belkin, and Assa.

5. Whether the Appellants have shown that the Examiner erred in rejecting claims 14 and 19-22 as unpatentable in view of Dew, Anderson, Belkin, and Sklar.

6. Whether the Appellants have shown that the Examiner erred in rejecting claims 23 and 24 as unpatentable in view of Dew, Anderson, Belkin, Sklar, and Assa.

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Dwyer discloses a medical laser delivery apparatus 10 for delivering a series of laser pulses having a wavelength, the medical laser delivery apparatus including non-ablative laser pulses (from laser 35) for directing to an area of tissue to be treated and generating a region of coagulation to a controllable coagulation depth under a surface of the area of tissue (Col. 3, ll. 40-44; Fig. 3).

2. Dwyer also discloses that the apparatus comprises a laser source (including lasers 35, 36, a switch 38, a beam splitter 37 and a lens 24) for generating the series of laser pulses including the non-ablative laser

1 pulses to be delivered to the area of tissue to be treated in order to raise a
2 temperature at the surface of the area of tissue to be treated to a temperature
3 sufficient to generate coagulation at the coagulation depth when the laser
4 source is in a coagulation mode (Col. 3, ll. 27-44; Col. 4, ll. 12-22; Fig. 3).

5 3. Dwyer further discloses that the laser source includes two or
6 more lasers 35, 36, the laser source combining the series of laser pulses from
7 the two or more lasers to provide an output via the beam splitter 37 and the
8 lens 24 by operation of the selecting switch 38, the output being further
9 provided to a common fiber 21 (Col. 4, ll. 8-22; Fig. 3).

10 4. Dew discloses a medical laser delivery apparatus similar to
11 Dwyer for delivering non-ablative laser pulses (from the main laser 20 or the
12 auxiliary laser 50) including a laser source with multiple lasers 20, 30, 50,
13 the outputs of which are combined through an optical component and
14 provided to the same optical fiber 22 (Col. 8, ll. 20-35; Fig. 2).

15 PRINCIPLES OF LAW

16
17 “A claim is anticipated only if each and every element as set forth in
18 the claim is found, either expressly or inherently described, in a single prior
19 art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d
20 628, 631 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987). Analysis of
21 whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins
22 with a determination of the scope of the claim. We determine the scope of
23 the claims in patent applications not solely on the basis of the claim
24 language, but upon giving claims their broadest reasonable construction in
25 light of the specification as it would be interpreted by one of ordinary skill in

1 the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir.
2 2004). The properly interpreted claim must then be compared with the prior
3 art.

4 In addition, “[s]ection 103 forbids issuance of a patent when ‘the
5 differences between the subject matter sought to be patented and the prior art
6 are such that the subject matter as a whole would have been obvious at the
7 time the invention was made to a person having ordinary skill in the art to
8 which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct.
9 1727, 1734 (2007). The Court explained that “[o]ften, it will be necessary
10 for a court to look to interrelated teachings of multiple patents; the effects of
11 demands known to the design community or present in the marketplace; and
12 the background knowledge possessed by a person having ordinary skill in
13 the art, all in order to determine whether there was an apparent reason to
14 combine the known elements in the fashion claimed by the patent at issue.”
15 *Id.* at 1740-41. The Court noted that “[t]o facilitate review, this analysis
16 should be made explicit.” *Id.*, citing *In re Kahn*, 441 F.3d 977, 988 (Fed.
17 Cir. 2006). However, “the analysis need not seek out precise teachings
18 directed to the specific subject matter of the challenged claim, for a court
19 can take account of the inferences and creative steps that a person of
20 ordinary skill in the art would employ.” *Id.* at 1741.

ANALYSIS

Rejection of claims 1, 11, 17, and 41 under 35 U.S.C. § 102(b) in view of Dwyer.

Initially, it is noted that the Appellants submitted arguments against the Examiner's rejection of these independent claims together as a group, claim 17 having been grouped with the other independent claims in the Reply Brief and not separately argued therein (App. Br. 7, l. 2-App. Br. 9, l. 31; Reply Br. 5). While the Appeal Brief also includes comments with respect to each of the rejected independent claims, these arguments merely refer to the arguments submitted for the grouped claims and do not provide any further arguments specific to each of the independent claims (App. Br. 8, l. 32-App. Br. 9, l. 31). Correspondingly, we select representative claim 1 to determine whether the Examiner erred with respect to this rejection, independent claims 11, 17 and 41 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2007).

The Examiner contends that each of these independent claims lack novelty over Dwyer. We concur with the Examiner that Dwyer discloses each and every limitation of these claims (FFs 1 to 3).

The Appellants argue that the Examiner's rejection of claims 1, 11, 17 and 41 is inappropriate and predicated on an overly broad interpretation of the teachings of Dwyer, because it is not feasible to alternate between pulses or sets of pulses with an apparatus of Dwyer in the time frame required to perform a coagulation or ablation operation on a target area (App. Br. 7, ll. 23-26). However, these "arguments fail from the outset because, . . . they are not based on limitations appearing in the claims" *In re Self*, 671

1 F.2d 1344, 1348 (CCPA 1982). As the Examiner noted, there is no temporal
2 limitation recited in these claims (Ans. 6, l. 11-Ans. 7, l. 1).

3 The Appellants' additional arguments advocating interpreting the
4 limitation "a wavelength" in view of the Specification to mean that both
5 lasers must produce pulses of the same wavelength is noted (App. Br. 7, l.
6 28-App. Br. 8, l. 30; App. Br. 9, ll. 6-31; Reply Br. 5, ll. 28-31). However,
7 the Appellants are reminded that during prosecution, claims are given their
8 broadest reasonable interpretation. *See In re Am. Acad. of Sci. Tech. Ctr.*,
9 367 F.3d at 1364 (stating that giving broad construction to claim terms is not
10 unreasonable during examination because the applicant can amend the
11 claims). The Examiner's interpretation of the limitation "a wavelength" to
12 mean one or more wavelength, rather than a "same wavelength," is
13 reasonable considering that the Specification does not explicitly define this
14 limitation to refer to a single wavelength.

15 Furthermore, the Federal Circuit has held that "an indefinite article 'a'
16 or 'an' in patent parlance carries the meaning of 'one or more' in open-
17 ended claims containing the transitional phrase 'comprising.'" *KJC Corp. v.*
18 *Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000). Moreover, the
19 Federal Circuit recently opined that "'a' or 'an' can mean 'one or more' is
20 best described as a rule, rather than merely as a presumption or even a
21 convention." *Baldwin Graphic Systems, Inc. v Siebert, Inc.* --- F.3d---, 2008
22 WL 124149, at *4 (Jan. 15, 2008). Therefore, we decline to adopt a narrow
23 construction of the indefinite article "a" as advocated by the Appellants, and
24 we concur with the Examiner that Dwyer discloses a laser source having a
25 wavelength (Ans. 7, l. 2-Ans. 8, l. 6).

1 In the Reply Brief, the Appellants argue that the Examiner's
2 anticipation rejection is also inappropriate because the device of Dwyer
3 cannot combine laser pulses from multiple laser beams (Reply Br. 5, ll. 15-
4 18). In determining the appropriateness of this rejection and the merit of the
5 Appellants' argument, we must interpret the claim limitation "laser source . .
6 . that combines the series of laser pulses from the two or more lasers." In
7 this regard, the Specification states that "[t]he two laser beams 33 and 35 are
8 combined into a single laser output 37 by the galvanometer [*sic*,
9 galvanometer] 36 which switches between the two laser outputs 33 and 35"
10 (Spec. 7, ll. 13-15). Thus, in operation, the Appellants' device does not
11 *additively* combine the two laser beams together to result in a *new*
12 combination laser beam that has been somehow altered by the combination
13 of the two laser beams. Instead, the Appellants' device switches between
14 the first laser beam and the second laser beam to provide an alternating
15 sequence of the first laser beam, the second laser beam, the first laser beam,
16 and so forth. Correspondingly, the recited limitation must be interpreted to
17 mean that the laser source switches between the two or more laser beams to
18 result in a laser output made up of sequential pulse of a first laser beam and
19 a pulse of a second laser beam, and so forth.

20 When the recited "laser source . . . that combines" limitation is
21 interpreted as discussed *supra*, it is clear that Dwyer discloses such a
22 limitation because the laser output of the apparatus in Dwyer is switched
23 between two different lasers 35, 36 using the selecting switch 38 (FF 3).
24 Hence, to the extent that the laser source of the Appellants' device
25 "combines" two laser beams, we find that the apparatus of Dwyer can

1 “combine” two laser beams as well. While the “combining” of the laser
2 beams in Dwyer may be in a longer time frame than that attained by the
3 Appellants’ invention, there is no temporal limitation in the rejected claims
4 as noted *supra*.

5 The Appellants’ also argue that a “beam splitter” typically splits light
6 and thus, cannot combine light (Reply Br. 5, ll. 15-29). However, Dwyer
7 clearly shows that the directed laser light from laser 36 is provided to the
8 lens 24 by the beam splitter 37, and the laser light from the laser 35 is also
9 provided to the lens 24 through the beam splitter 37 (FF 3; Fig. 3). Thus, the
10 beam splitter 37 does combine (as interpreted *supra*) the laser light of both
11 lasers 36 and 35, and provides the light to the lens 24 as well as the fiber 21
12 (Fig. 3; FF 3).

13 The Appellants’ further argument that Dwyer fails to disclose
14 “generating a single laser output by combining pulses from multiple laser
15 sources with the same wavelength in a single operation” is noted (Reply Br.
16 5, ll. 27-29). However, the Appellants are arguing limitations for “same
17 wavelength” and “in a single operation” that are not present in the claims.

18 In view of the above, the Appellants’ have failed to establish that the
19 Examiner erred in rejecting independent claims 1, 11, 17, and 41 as lacking
20 novelty over Dwyer.

21
22 Rejection of claims 1-3, 8, 41, 43, 44, and 47-51 under 35 U.S.C.
23 § 103(a) in view of Dew, Anderson and Belkin.

24 Regarding independent claims 1, 41, 50, and 51, the Appellants
25 initially point to the various deficiencies of each of the cited references, and

1 assert that the combination of the cited references fail to teach a laser source
2 having two or more lasers having a wavelength, wherein pulses of two or
3 more lasers are combined for generating a laser output (App. Br. 10, l. 32-
4 App. Br. 11, l. 6).

5 However, as the Examiner points out, the Appellants appear to be
6 analyzing the prior art references separately (Ans. 8, ll. 9-13). The test for
7 obviousness is what the combined teachings of the references would suggest
8 to those of ordinary skill in the art, and non-obviousness cannot be
9 established by attacking references individually. *In re Young*, 927 F.2d 588,
10 591 (Fed. Cir. 1991); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir.
11 1986); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

12 For each of the independent claims 1, 41, 50, and 51, the Appellants
13 also argue that that the combination of references fail to disclose a medical
14 laser delivery apparatus for delivering a series of laser pulses having *a*
15 *wavelength* and a laser source with two or more lasers that combines the
16 laser pulses from the lasers (App. Br. 11, ll. 17-21; Reply Br. 6, ll. 13-20).
17 However, these arguments are not persuasive as discussed in detail *supra*
18 relative to the Examiner's anticipation rejection based on Dwyer. In
19 particular, the Dew reference discloses a medical laser delivery apparatus
20 with a laser source having multiple lasers that can be selectively operated to
21 result in a combined laser output at an optical device that is provided to an
22 optical fiber (FF 4).

23 The Appellants further argue that the combination of the prior art
24 references still does not disclose a galvanometer which combines the series
25 of laser pulses from the two or more lasers into a single laser output as

1 recited in independent claims 50 and 51 (App. Br. 12, ll. 24-29; App. Br. 13,
2 ll. 4-7). However, the Appellants do not provide specific arguments against
3 the Examiner's prior finding that galvanometers are well known for
4 alternating laser beams (Ans. 13-18). The Appellants are reminded that a
5 statement which merely points out what a claim recites will not be
6 considered an argument for separate patentability of the claim. *See* 37
7 C.F.R. 41.37(c)(1)(vii) (2007). A general allegation that the art does not
8 teach a claim limitation is no more than merely pointing out the claim
9 limitations and does not establish non-obviousness.

10 Therefore, in view of the above, the Appellants have not shown that
11 the Examiner erred in rejecting independent claims 1, 41, 50, and 51 as
12 unpatentable. The dependent claims 2, 3, 8, 43, 44, and 47-49 were not
13 argued separately, and thus, the Appellants have also failed to show that the
14 Examiner erred in rejecting these dependent claims as well. *See In re*
15 *Dance*, 160 F.3d 1339, 1340 n.2 (Fed. Cir. 1998).

16
17 Rejection of claims 1, 6, 7, 11-13, 17, 18, 41, and 44-46 under 35
18 U.S.C. § 103(a) in view of Sklar, and Dwyer et al.

19 The Appellants initially request the reversal of this rejection
20 contending that Sklar is directed to a laser tracking system instead of a laser
21 delivery system and that Sklar fails to disclose various features of the
22 rejected independent claims (App. Br. 13, l. 28-App. Br. 14, l. 11).
23 However, the Examiner states that he is relying on Sklar for teaching the use
24 of a user interface in a laser surgery system that incorporate various features
25 claimed by the Appellants, and thus, contends that it would have been

1 obvious to one of ordinary skill to provide such a user interface to the
2 medical laser delivery system of Dwyer to enhance controlling of the
3 separate lasers (Ans. 4, l. 19-Ans. 5, l. 5). We agree.

4 Sklar is directed to an apparatus for precision laser surgery which is in
5 the same field of art as the medical laser delivery apparatus of the present
6 invention. The Examiner has provided a rational basis as to why one of
7 ordinary skill in the art would have been motivated to implement a user
8 interface in the medical laser delivery apparatus of Dwyer based on Sklar
9 which teaches such a user interface in a laser surgery device. *KSR*, 127 S.Ct.
10 at 1740-41. Moreover, implementing a user interface in the laser delivery
11 apparatus of Dwyer would be a combination of familiar elements according
12 to known methods which is likely to have been obvious because it does no
13 more than yield predictable results. *Id.* at 1739.

14 The Appellants again assert that the combination of the cited prior art
15 does not teach laser pulses having a *wavelength* or combining of the laser
16 pulses with respect to each of the independent claims 1, 11, 17, and 41 (App.
17 Br. 14, ll.12-32; App. Br. 15, l. 15-App. Br. 17, l. 12). However, these
18 arguments are not persuasive as addressed in detail *supra*.

19 Therefore, the Appellants have failed to show that the Examiner erred
20 in rejecting independent claims 1, 11, 17, and 41 as unpatentable in view of
21 Sklar and Dwyer. The dependent claims 6, 7, 12-13, 18, and 44-46 were not
22 argued separately on appeal, and thus, the Appellants have failed to show
23 that the Examiner erred in rejecting these dependent claims as well. *See In re*
24 *Dance*, 160 F.3d at 1340 n.2.

1 Rejection of claims 4, 9, 10, 42, and 52 under 35 U.S.C. § 103(a) in
2 view of Dew, Anderson, Belkin and Assa.

3 Regarding the Examiner's rejection of dependent claims 4, 9, 10, 42,
4 and 52, the Appellants initially merely assert that the combination of the
5 cited references fail to disclose combining laser pulses from a laser source
6 comprising two or more lasers having a wavelength to generate a single laser
7 output (App. Br. 17, I. 24-32). This argument is directed to the limitations of
8 the base independent claims and is unpersuasive for the reasons discussed
9 *supra*.

10 The Appellants further assert that the Examiner's rejection relies on
11 inordinate number of references and is inconsistent with establishing a *prima*
12 *facie* case of obviousness (App. Br. 17, II. 26-29; Reply Br. 8, II. 11-13).
13 However, reliance on a large number of references in a rejection does not,
14 without more, weigh against obviousness. *See In re Gorman*, 933 F.2d 982,
15 986 (Fed. Cir. 1991). Moreover, it is our view that four references can
16 hardly be considered an "inordinate number" of references.

17 Therefore, with no other arguments being directed to the substantive
18 limitations of the rejected dependent claims, the Appellants have failed to
19 show that the Examiner erred in rejecting dependent claims 4, 9, 10, 42, and
20 52.

21
22 Rejection of claims 14 and 19-22 under 35 U.S.C. § 103(a) in view of
23 Dew, Anderson, Belkin, and Sklar.

24 The Appellants argue that the combination of the cited references fails
25 to teach or suggest a laser source having two or more pulsed lasers for

1 generating pulses of laser light having *a wavelength*, again advocating
2 interpretation of the article “a” to mean a single, same wavelength as argued
3 with respect to the corresponding independent claims (Br. 18, ll. 13-17). We
4 decline to do so for the reasons set forth *supra*. Thus, we find that the
5 Appellants have failed to show that the Examiner erred in rejecting
6 dependent claims 14 and 19-22.

7
8 Rejection of claims 23 and 24 under 35 U.S.C. § 103(a) in view of
9 Dew, Anderson, Belkin, Sklar, and Assa.

10 The Appellants again argue that the combination of the cited
11 references fail to teach or suggest generating pulses of laser light having *a*
12 *wavelength* as argued relative to independent claim 17 from which these
13 claims depend (App. Br. 18, l. 30-App. Br. 19, l. 3). Therefore, for the same
14 reasons set forth *supra*, we find that the Appellants have failed to show that
15 the Examiner erred in rejecting these dependent claims as well.

16 17 CONCLUSION

18 The Appellants have not shown that the Examiner erred in rejecting
19 the pending claims.

20 21 ORDER

22 The Examiner’s rejections of claims 1-4, 6-14, 17-24 and 41-52 are
23 AFFIRMED.

No time period for taking any subsequent action in connection with
this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. §
1.136(a)(1)(iv) (2007).

AFFIRMED

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